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Note: This topic does *not* apply to deployments in which users schedule meetings from the Cisco WebEx site. For information about Cisco WebEx integration deployments, see the *Planning Guide for Cisco Unified MeetingPlace* at [http://docwiki.cisco.com/wiki/Cisco Unified MeetingPlace%2C Release 8.0 -- Planning Your Deployment](http://docwiki.cisco.com/wiki/Cisco_Unified_MeetingPlace%2C_Release_8.0_--_Planning_Your_Deployment).

The Cisco Unified MeetingPlace Web Server software is designed to manage itself automatically with minimal administrative activities. However, it is important to consider the impact that potential activities can have on network and hardware resources.

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Web Server Data Storage

Storage space is required on the Cisco Unified MeetingPlace Web Server for storing converted meeting recordings. It is important to plan for the system demand (disk space) that this kind of storage will require through proper configuration and management.

By default, the Web Server stores all recordings for meetings held on the server on a local disk. You can change the storage configuration to copy these items to an external backup location (such as a shared network drive on a dedicated storage server, a network-attached storage device, or a storage area network).

The Cisco Unified MeetingPlace Web Server software checks for available disk space at regular five minute intervals. When the free disk space hits the 20% mark, a minor alarm is sent to the Application Server. When the free disk space hits 5%, a major alarm is sent to the Application Server but the system will not automatically shut down the Web Server. If you attempt to restart the Web Server for any reason when the disk space is less than 5% the Web Server will refuse to start up.

Caution! If you see a minor alarm for a disk space issue on the Web Server in the alarm table, the disk space identified in the alarm table only reflects the first event. The disk space could be better or worse if the alarm table has received more than one of these alarms. Therefore you should take measures to deal with the disk space issue to prevent any potential failure of the Web Server.

Related Topics

- [Viewing an Event with the Windows Event Viewer](#) in the [Monitoring and Maintaining the Cisco Unified MeetingPlace Web Server](#) module

Recording File Sizes on the Web Server

The following information applies to video-enabled meetings:

- If no video participants attend, Cisco Unified MeetingPlace will still attempt to record audio and video in case a video endpoint eventually joins or an audio endpoint escalates to video.
- If a video participant attends, all audio and video recordings are recorded on the Application Server in a preliminary MP4 format, which is then replicated to the Web Server for proper file conversions. The replicated MP4 file is used to create the WAV file, which is then used to create the MP3 and WMA files. The original MP4 file is converted to H.264(avc1)/AAC/mp4a) MP4 for playback.

The following table lists the approximate disk space required for various recording types. With the exception of the Cisco WebEx ARF format, you can select which types of recording will be available from the Audio Conversion page of the Cisco Unified MeetingPlace Web Administration.

File Format	Approximate Disk Space Required Per Hour of Recording
WMA format	9 MB
WAV format (8-bit, 8Khz sampling rate)	27-30 MB
WAV format (16-bit, 8Khz sampling rate)	54-60 MB
MP3 format (32 kbits/s, 11Khz sampling rate)	14-15 MB
MP4 audio only AAC (mp4a)	512 KB
MP4 audio and video H.264 (avc1)/AAC (mp4a)	150-175 MB

Note: Cisco WebEx ARF recording files are only stored on the Cisco Unified MeetingPlace Web Server for internal meetings that are scheduled from Cisco Unified MeetingPlace. Users who download .arf files must also download the Cisco WebEx player to play back the recordings.

Caution! The Web Server will become inoperable if recordings consume all the disk space. Specifically, the Cisco Unified MeetingPlace web user portal will become inaccessible.

Related Topics

- [Converting Cisco Unified MeetingPlace Recording Files to WAV Format](#)
- [Converting Cisco Unified MeetingPlace Recording Files to MP3 Format](#)
- [Converting Cisco Unified MeetingPlace Recording Files to MP4 Format](#)
- [How to Convert Cisco Unified MeetingPlace Recording Files to Windows Media Format](#)
- [Configuring Recordings for Cisco Unified MeetingPlace-Cisco WebEx Integration module](#)

Best Practices for Storage Maintenance

For optimal space usage, we recommend the following best practices:

- If you plan to record video, turn on remote storage to prevent the Web Server from running out of disk space.
- Regularly check the drive you use to ensure that there is enough disk space for additional recordings.

Note: You cannot manually delete meeting statistics from the Web Server. This ability is controlled by the Days until meeting statistics deleted field on the [Meeting Configuration Page](#) in the Administration Center and cannot be changed for a particular meeting once it is set. Since you cannot change when past meetings are deleted from the system, use the remote storage feature to move

recordings to a new larger drive when you are running low on disk space.

Related Topics

- [Replication Service](#)
- [Configuring Remote Storage](#)
- [How to Update Meetings and User Profiles](#)
- [Administration Center Page References for Cisco Unified MeetingPlace module](#)

Configuring Remote Storage

By default, the Cisco Unified MeetingPlace Web Server stores recordings and other meeting content on the local disk. We recommend that you turn on remote storage to free resources on your Web Server.

When remote storage is turned on, meeting recordings and other content are copied from the Web Server to an external storage device, such as a shared network drive on a dedicated storage server, a network-attached storage device, or a storage area network. While the meeting content remains on the external storage device for long-term access, the meeting content is deleted from the Web Server when the corresponding meeting data is deleted from the Application Server, which is determined by the Days until meeting statistics deleted field on the [Meeting Configuration Page](#) in the Administration Center.

Before You Begin

This task requires that you reboot the Web Server, which terminates all existing web connections. It may take several hours for the Cisco Unified MeetingPlace Web Master Service to come back up. It cannot start again until all the files in the C:\Program Files\Cisco Systems\MPWeb\Meetings and C:\Program Files\Cisco Systems\MPWeb\WebConf\content\7 folders are transferred to the remote storage device. These folders may contain more than 20 GB of data each, so the downtime may be significant.

Restrictions

- Once you enable remote storage, you cannot disable the feature. As a workaround, you can change the path to an invalid location to effectively disable remote storage.
- Due to a Windows security restriction, you cannot move or copy files from remote storage to local storage when the Cisco Unified MeetingPlace Web Master Service is running under the LocalSystem account.
- When moving from one remote storage location to another, the Windows account that is configured to access the remote storage **MUST** have write access to both the old and new locations. If it does not, the old content will not be copied from the old location to the new location.

Procedure

1. Sign in to the Cisco Unified MeetingPlace web user portal.
2. Select **Admin**.

3. Select **Remote Storage**.
4. Select **On** for Enabled.
5. Locate the Remote Storage Path field.
6. Enter the network-accessible path to the storage directory, for example, \\storesrvr\C\$\Web_data\MPWeb.
 - ◆ If you have a security concern with using the far end remote storage admin credentials due to the C\$, set up a unique user account that has administrator privileges on the Web Server so that it can access the shared folder with the proper credentials and run the MeetingPlace services. For example, \\storesrvr\MeetingPlace\Web_data\MPWeb where the credentials allow access to the MeetingPlace folder.
Note: If you ever need to change the location of the remote storage, update the credentials for both the remote storage and the local storage since both will require simultaneous access. If both storage locations do not share the same credentials, the destination storage location will not contain the updated recordings and users will not be able to access them from the Cisco Unified MeetingPlace web user portal.
7. In the applicable fields, enter a domain, username, and password for a Windows account that will be used to access the directory that you configured in Step 6. If the account is a local account, enter the computer name in the Domain field.
 - ◆ All Cisco Unified MeetingPlace services will be reconfigured to "Log On As" the account that you select in this step.
 - ◆ If improper credentials are used, users may see an "Error: Access is denied" message when they attempt to access a recording from the Cisco Unified MeetingPlace Web Server.
8. Re-enter the password in the Confirm Password field.
9. Select **Save Changes**.
10. Select **Reboot Server** to put the changes into effect.
11. Select **OK** to confirm the reboot.

The server shuts down and restarts.

Related Topics

- [Cannot Access Meeting Recordings When Using Remote Storage](#)

What to Do Next

If this server is part of a cluster configuration, make sure that you restart the Cisco Unified MeetingPlace Web Master Service on the other Web Servers in the cluster.

How to Update Meetings and User Profiles

- [Replication Service](#)
- [Updating All Meetings](#)
- [Updating All User Profiles](#)
- [Updating All Video Terminals](#)
- [Updating All Groups](#)

Replication Service

The Cisco Unified MeetingPlace Replication Service automatically synchronizes the local Web Server database with that of the Cisco Unified MeetingPlace Application Server to update meetings, user profiles, and user group information. The following occurs by default:

- Synchronization occurs every 60 seconds.
- The User Profile Update Interval updates every night.
- The Group Update Interval updates every night.
- Meeting information updates every 60 seconds.

The Replication Service copies audio and video recordings from the Cisco Unified MeetingPlace Application Server and stores the replicated files on the Cisco Unified MeetingPlace Web Server. Pointers to these files are then created in the database. The Replication Service downloads voice files in their original MP4 file format. After voice files are downloaded, the Replication Service queues jobs for conversion by the Audio Service.

The Replication Service also replicates video terminal user profile information from the Application Server. By default, this replication occurs every night.

In the event of a system failure, you can manually invoke the Replication Service operations. Allow up to 20 minutes for any changes made to the Replication Service to take effect.

Updating All Meetings

The Update All Meetings feature is automatically run at 4 a.m. every Sunday to synchronize meetings and meeting information between the Cisco Unified MeetingPlace Application Server and the Web Server. You can also manually invoke this feature whenever you want to force the following behavior:

- Meetings and meeting information are downloaded from the Application Server to the Web Server.
- If there are extra meetings on the Web Server, they are deleted.
- Meetings are synchronized between the Application Server and Web Server going forward.

Note: Every day at 2 a.m. (local server time), the system deletes all recordings on the Cisco Unified MeetingPlace Application Server that are older than 24 hours. Any recordings that have already been deleted from an Application Server are no longer available and hence, not downloaded.

Before You Begin

Allow 20 minutes for changes to take effect. Allow more time for a large number of meetings. For example, the update process for 35,000 meetings can last about 2.5 hours.

Procedure

1. Sign in to the Cisco Unified MeetingPlace web user portal.
2. Select **Admin**.
3. Select **Replication Service**.
4. Select **Update All Meetings** for Replication Service Command.
Any MP4 files that have not yet been converted are downloaded and converted into the desired formats from the Application Server to the Web Server. New meetings are also updated.
5. Select **Submit**.

Related Topics

- [Replication Service](#)

Updating All User Profiles

Every night, a Replication Service update automatically synchronizes the user profile database between the Web Server and the Application Server.

Complete this procedure if you update the user profile database on the Application Server and do not want to wait for the Replication Service to update the user profile database on the local Web Server. Allow 20 minutes for changes to take effect.

Procedure

1. Sign in to the Cisco Unified MeetingPlace web user portal.
2. Select **Admin**.
3. Select **Replication Service**.
4. Select **Update All User Profiles** for Replication Service Command.
5. Select **Submit**.

Related Topics

- [Replication Service](#)

Updating All Video Terminals

Every night, a Replication Service update automatically synchronizes the video terminal profile database between the Web Server and the Application Server.

Complete this procedure if you update the video terminal profile database on the Application Server and do not want to wait for the Replication Service to update the video terminal profile database on the local Web Server. Allow 20 minutes for changes to take effect.

The amount of time the replication takes depends on the number of video terminals; for example, allow 20 minutes to replicate up to 1000 video terminals.

Tip: Synchronize your updates on the Web Server when you update terminals in the Cisco Unified MeetingPlace Media Server Administration.

Procedure

1. Sign in to the Cisco Unified MeetingPlace web user portal.
2. Select **Admin**.
3. Select **Replication Service**.
4. Select **Update All Terminals** for Replication Service Command.
5. Select **Submit**.

Related Topics

- [Replication Service](#)

Updating All Groups

Every night, a Replication Service update automatically synchronizes the user group database between the Web Server and the Application Server.

Complete this procedure if you update the user group database on the Application Server and do not want to wait for the Replication Service to update the user profile database on the local Web Server. Allow 20 minutes for changes to take effect.

Procedure

1. Sign in to the Cisco Unified MeetingPlace web user portal.
2. Select **Admin**.
3. Select **Replication Service**.
4. Select **Update All Groups** for Replication Service Command.
5. Select **Submit**.

Related Topics

- [Replication Service](#)